

CLAIMS

We claim:

1. A heat exchanger tank for a cooling system comprising;
a single sheet of material having a cladding on at least one surface
5 thereof and extending through a rectangular cross-section defining a tube wall having
tube holes therein and a parallel joint wall spaced from said tube wall with spaced
parallel sidewalls interconnecting said joint and tube walls to define a chamber and
opposed open ends for permitting fluid flow through said tank,
said tank characterized by said joint wall including a tab integrally
10 formed therewith and extending from said joint wall into said chamber and a first of
said sidewalls disposed in sealing engagement with the outside of said tab to thereby
enclose said tab within said chamber.
2. A tank as recited in claim 1 wherein said first sidewall extends above
15 said joint wall and said tab to define a mounting flange for mounting said tank on the
cooling system.
3. A tank as recited in claim 2 wherein said flange includes a plurality of
holes for receiving fasteners therethrough for mounting said tank on the cooling
20 system.
4. A tank as recited in claim 2 wherein said flange includes a peripheral

edge with spaced slots extending therefrom toward said tab for connecting said tank to the cooling system.

5. A tank as recited in claim 2 wherein said flange includes a peripheral
5 edge with recessed areas extending therefrom said peripheral edge toward each of said ends of the tank for positioning said flange in closely-conforming relation to the cooling system.

6. A tank as recited in claim 2 wherein said first sidewall includes an
10 interior joint surface within said chamber and said tab includes an exterior surface with said cladding thereon sealing said exterior surface into engagement with said joint surface to define an internal braze joint within said chamber.

7. A tank as recited in claim 2 wherein said flange is of a double
15 thickness of said sheet to define a primary wall and a reinforcing wall.

8. A tank as recited in claim 7 including a U-shaped fold integrally joining said primary and reinforcing walls and extending parallel to the longitudinal axis of said tank.

9. A tank as recited in claim 7 wherein said reinforcing wall overlaps said primary wall on the interior thereof and extends transversely over said joint wall on the exterior thereof.

5 10. A tank as recited in claim 9 wherein said cladding seals said reinforcing wall into engagement with said primary wall and said joint wall to define an exterior braze joint.

10 11. A tank as recited in claim 1 and including end caps sealingly engaged with said open ends of said tank.

12. A tank as recited in claim 1 and including elongated tubes received through said tube holes, each of said tubes defining a passage extending therethrough.

15 13. A method of fabricating a heat exchanger tank comprising the steps of;
forming a single sheet of material having a cladding on at least one surface thereof to define a tank extending through a rectangular cross-section with a tube wall, a parallel joint wall spaced from the tube wall, spaced parallel sidewalls interconnecting the joint and tube walls to define a chamber having opposed open
20 ends,

forming an integral tab extending from the joint wall into the chamber,
disposing a first of the sidewalls into engagement with the exterior of

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the tab to enclose the tab within the chamber, and
brazing the first sidewall to the tab.

14. A method as set forth in claim 13 further defined as extending the first
5 sidewall upwardly above the joint wall and the tab to project outwardly from the joint
wall to define a flange.

15. A method as set forth in claim 14 further defined as extending holes
through the flange for receiving fasteners therethrough to mount the tank on the
10 cooling system.

16. A method as set forth in claim 14 further defined as forming spaced
slots on the flange extending from a peripheral edge thereof toward the tab for
connecting the tank to the cooling system.

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17. A method as set forth in claim 14 further defined as forming a recessed
area on each end of the flange extending from a peripheral edge thereof toward an
adjacent end of the tank.

20 18. A method as set forth in claim 14 further defined as doubling the sheet
defining the flange to further define a primary wall and a reinforcing wall.

19. A method as set forth in claim 18 further defined as forming a U-shaped fold integrally joining the primary and reinforcing walls.

20. A method as set forth in claim 19 further defined as overlapping the
5 primary and joint walls with the reinforcing wall.

21. A method as set forth in claim 20 further defined as brazing the reinforcing wall to the primary wall and the joint wall.

10 22. A method as set forth in claim 16 further defined as sealing an end cap into engagement with each of the open ends of the tank.